

# Deutsche Bank

Berlin, Germany

52,5°N, 13,2°E

predominantly cloudy

bank building

exterior structure of sunshades and maintenance balconies

## building

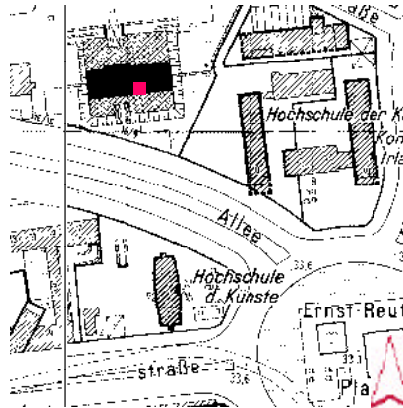
The building is horizontally divided into two parts: a base that serves customer oriented functions, and an office tower for internal business. The exterior facade is structured by balconies, columns and sun shades.

## daylight strategy

The most significant daylighting feature of the facade are sun shades that were not only designed to reduce cooling loads and to attenuate the illuminance level in the window area, but to redirect daylight to the ceiling. These rather large sun shades do not seem to be appropriate for the Berlin climate, however. On cloudy days the redirection of daylight cannot compensate for the obstruction of the sky caused by the exterior skin. Under sunny sky conditions the exterior louver blinds and interior vertical blinds cover the entire height of the window in order to control glare. These systems block direct sunlight as well as redirected daylight. Consequentially the 8 m deep offices highly depend on artificial lighting.

## offices

The recorded workspaces within the group-office are situated along the window. The space to the rear is less attractive and therefore used for common purposes such as a ceroxing or filing. One significant appraisal of the users was, that the sunshade and the perforated lamellas of the blinds do not control glare, necessitating the installation of an additional interior system.



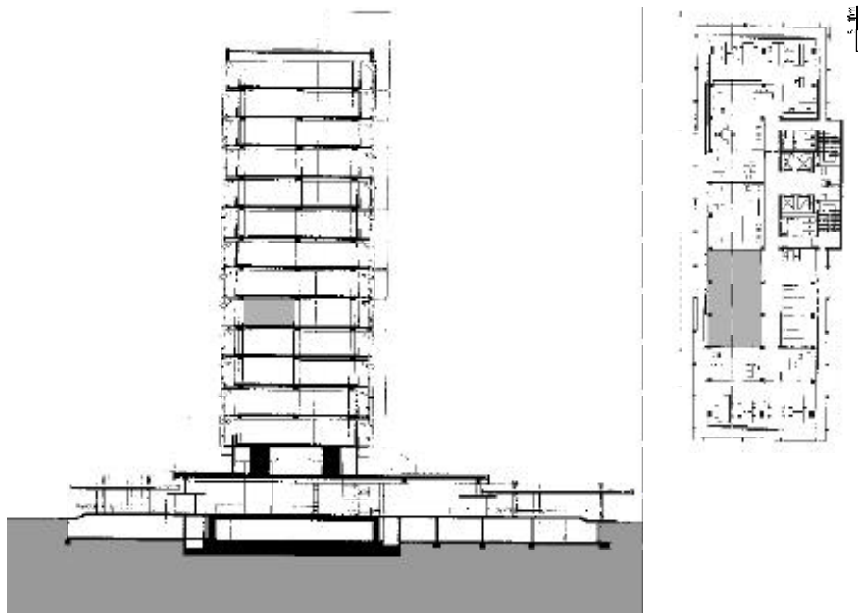
The building is part of the development around the Ernst-Reuter-Platz with large scaled public areas.



The concrete structures of the maintenance balcony and the sunshade obstruct the sky significantly.



View of the Deutsche-Bank-Building from the Ernst-Reuter-Platz.



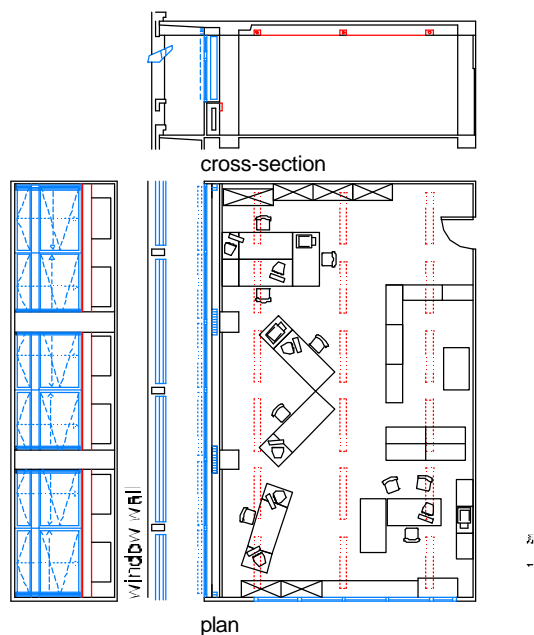
Cross-section and floorplan. The building structure allows to install large scale offices as well as cellular offices.



Interior view from the corridor wall. The room is very deep, permanent workplaces are situated in the window area, while common purposes are placed in the rear part.



Big sunshades and exterior maintenance balconies obstruct the sky and decrease the daylight penetration of the offices in cloudy sky conditions, the main reason to use such elements within a facade in a northern climate is the reduction of cooling loads.



## building data

size	15 000 m <sup>2</sup>
number of stories	14
architect	Günter Hönow
daylight consultant	E. Dahmen
year of completion	1968
retrofitting	1998

## of fice room

daylight strategy	unilateral, sidelighting
dimensions (depth/width/height)	8 m / 13 m / 3 m
room area	104 m <sup>2</sup>
floor	carpet, brown, 13%
wall	white paint, 71%
door	off-white, 50%
ceiling	off-white, 50%
table, furniture	coated board, light gray, 4
window frame	warm gray
facade, lower window	double, low e
facade, upper window	double, low e
lamp types	fluorescent lamps
installed power density	> 10 W/m <sup>2</sup>
control strategy	manual switching

facade	South facade		corridor facing windows
	orientation	185°	5°
data	glazed area	19,6 m <sup>2</sup>	2,1 m <sup>2</sup>
	opening index	0,5	0,05
	daylighting	●	—
function	view outside	●	—
	ventilation	●	—
	operable	●	—
	shading	●	—
	redirection	●	—
function systems	vertical lamellas		
	vertical lamellas	slat	sunshade
function	sun shading	●	—
	glare protection	●	—
	redirection	●	—
location	inside	●	—
	window pane	—	—
	outside	—	—
	movable	●	—
	fixed	—	—